

NON-PUBLIC?: N
ACCESSION #: 8712100196

LICENSEE EVENT REPORT (LER)

FACILITY NAME: PLANT VOGTLE - UNIT 1 PAGE: 1 of 4

DOCKET NUMBER: 05000424

TITLE: REACTOR TRIP FOLLOWING TURBINE TRIP CAUSED BY VIBRATION
MONITOR CABLE

MOVEMENT

EVENT DATE: 11/05/87 LER #: 87-063-00 REPORT DATE: 12/04/87

OPERATING MODE: 1 POWER LEVEL: 100

THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR
SECTION

50.73(a)(2)(iv)

LICENSEE CONTACT FOR THIS LER:

NAME: W. F. Burns, Nuclear Licensing Manager - Vogtle

TELEPHONE #: 404-526-7014

SUPPLEMENTAL REPORT EXPECTED: No

ABSTRACT: On November 5, 1987, plant personnel were working on level three (3) of the turbine building. At 0940 CST with Unit 1 at 100% rated thermal power, a turbine trip occurred when a turbine vibration monitor actuated. The turbine trip generated a reactor trip signal. The Main Feedwater system isolated and the Auxiliary Feedwater system actuated. Plant equipment responded as designed and plant operators stabilized the steam generator water levels by 1001 CST.

The apparent cause of this event was the actuation of vibration monitor XE6371. The actuation was caused when the monitor's cabling was moved by plant personnel performing work on nearby components. Corrective action includes labeling the cables to advise plant personnel of the cabling's potential to trip the plant.

(End of Abstract)

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A. REQUIREMENT FOR REPORT

This report is required per 10 CFR 50.73 (a)(2)(iv) because of an unplanned actuation of the Reactor Protection System (RPS).

B. UNIT STATUS AT TIME OF EVENT

At the time of this event, Unit 1 was in Mode 1 (power operation) at 100% of rated thermal power. There was no inoperable plant equipment which contributed to this event.

C. DESCRIPTION OF EVENT

On November 5, 1987, plant personnel were performing work on level three (3) of the Turbine Building, which is commonly referred to as the turbine-generator deck. A mechanic (utility personnel) was caulking bolts near a turbine bearing housing (number 5). In order to reach the bolts, the mechanic performed this work while laying on his folded jacket, which had been laid on the cabling for vibration monitor XE6371. At 0940 CST, a turbine trip occurred which subsequently generated a reactor trip signal. Control room operators received the Advanced Turbine Supervisory Instrumentation (ATSI) common alarm, followed by the ATSI High-Vibration Turbine Trip alarm and the Low Emergency Trip System Pressure/Turbine Trip alarm (signifying a turbine trip), which was followed by a reactor trip. The Main Feedwater system isolated which initiated the motor driven Auxiliary Feedwater (AFW) pumps. The Chemical and Volume Control system letdown isolated. Upon reaching the steam generator low-low water level setpoint, the turbine driven AFW pump also started. The control room operators responded by re-establishing letdown and stabilizing steam generator water levels. Plant systems responded as expected. The unit was returned to a stable hot standby condition at 1001 CST.

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D. CAUSE OF EVENT

The immediate cause of this event was the actuation of a vibration monitor. Although the ATSI system cannot distinguish which of ten monitors actuated, an event review team, which investigated the incident, concluded that the apparent intermediate cause was the mechanic's motion or pressure against the cabling. This caused the vibration monitor probe to initiate a turbine trip.

The root cause for disturbing the cabling is procedural inadequacy. The operating procedure, 13800-1, "Main Turbine Operation", does not provide a mechanism to bypass the vibration

trips nor does it detail acceptable precautions to take when work is being performed in the vicinity of the probes. Also, procedure 00350-C, "Maintenance Program", allows for some maintenance activities to be performed without the knowledge or approval of control room personnel, even when the maintenance activity may affect plant operations, as it did in this case.

Contributing causes for this event include:

- a) Lack of labeling which could have identified the vibration monitors as potential trip devices. This could have raised the level of concern of employees working in the area.
- b) Failure of supervision to identify potential problems to personnel performing work, either before or during the evolution.

E. ANALYSIS OF EVENT

The turbine trip vibration monitor system is designed to protect the turbine from damage in the event of bearing failure or other potential high-vibration incidents. Since none occurred, there was no opportunity for turbine damage. A turbine trip from 100% power is bounded by accident analyses in the Final Safety Analyses Report. Additionally, transients of this nature are tracked against their fatigue limits which are stated in the Technical Specifications Section 5.7. Since operators responded properly and the automatic equipment functioned as designed, this event had no adverse affect on either plant safety or public health and safety.

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F. CORRECTIVE ACTIONS

1. Procedure 13800-1, "Main Turbine Operation", is expected to be revised by January 15, 1988, to detail how and when to bypass the turbine vibration trips when certain work is in progress.
2. Procedure 00350-C, "Maintenance Program", is expected to be revised by January 15, 1988, to require that control room personnel be advised whenever physical work is being conducted in the plant that could affect plant operation.
3. Temporary caution labels have been affixed near the vibration monitors. Vibration monitors are expected to be permanently labeled by January 15, 1988, to warn personnel of the plant

trip potential.

4. A design change to the ATSI is being considered that would allow for identification of which of the ten vibration monitors actuates trip circuitry.

5. Plant management is evaluating several methods to be used for identifying potential problems prior to performing maintenance activities.

G. ADDITIONAL INFORMATION

1. Failed Components

None

2. Previous Similar Events

None

3. Energy Industry Identification System Code

Turbine Supervisory Instrumentation

(w/Vibration Monitoring)- IV

Auxiliary Feedwater System - BA

Main Feedwater System - SJ

Chemical & Volume Control System - CB

ATTACHMENT # 1 TO ANO # 8712100196 PAGE: 1 of 2

Georgia Power Company

333 Piedmont Avenue

Atlanta, Georgia 30308

Telephone 404 526-6526

Mailing Address

Post Office Box 4545

Atlanta, Georgia 30302

Georgia Power

the southern electric system

L.T. Gucwa

Manager Nuclear Safety

and Licensing

SL-3761

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December 4, 1987

U. S. Nuclear Regulatory Commission
ATTN: Document Control Desk
Washington, D. C. 20555

PLANT VOGTLE - UNIT 1
NRC DOCKET 50-424
OPERATING LICENSE NPF-68
LICENSEE EVENT REPORT
REACTOR TRIP FOLLOWING TURBINE TRIP
CAUSED BY VIBRATION MONITOR CABLE MOVEMENT

Gentlemen:

In accordance with the requirements of 10 CFR 50.73(a)(2)(iv), Georgia Power Company is submitting a Licensee Event Report (LER) concerning an unplanned actuation of the Reactor Protection System.

Sincerely,

/s/ L.T. Gucwa
L. T. Gucwa

PAH/lm
Enclosure: LER 50-424/1987-063
cc: (see next page)

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Georgia Power

U. S. Nuclear Regulatory Commission
December 4, 1987
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c: Georgia Power Company
Mr. P. D. Rice
Mr. J. P. O'Reilly
Mr. G. Bockold, Jr.
Mr. J. E. Swartzwelder
Mr. C. W. Hayes
GO-NORMS

Southern Company Services
Mr. R. A. Thomas
Mr. J. A. Bailey

Shaw, Pittman, Potts & Trowbridge
Mr. B. W. Churchill, Attorney-at-Law

Troutman, Sanders, Lockerman & Ashmore
Mr. A. H. Domby, Attorney-at-Law

U. S. Nuclear Regulatory Commission
Dr. J. N. Grace, Regional Administrator
Mr. J. B. Hopkins, Licensing Project Manager, NRR (2 copies)
Mr. J. F. Rogge, Senior Resident Inspector-Operations, Vogtle

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